

PATENT COOPERATION TREATY

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REC'D 27 JUL 2005


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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PU030152	FOR FURTHER ACTION See Form PCT/IPEA416	
International application No. PCT/US2004/009866	International filing date (day/month/year) 30.03.2004	Priority date (day/month/year) 15.05.2003
International Patent Classification (IPC) or national classification and IPC G06T9/00, H04N5/262		
Applicant THOMSON LICENSING S.A. et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 21.03.2005	Date of completion of this report 26.07.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Herter, J Telephone No. +49 89 2399-7478	



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/US2004/009866

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-14 as originally filed

Claims, Numbers

1-22 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/US2004/009866

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	1-22
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

1. Reference is made to the following documents:

- D1: US-A-5 641 596 (Cok et al.) 24 June 1997
- D2: Campisi et al.: "Signal-dependent film grain noise generation using homomorphic adaptive filtering" IEE Proceedings: Vision, Image and Signal Processing, Institution of Electrical Engineers, GB, vol. 147, no. 3, 23 June 2000, pages 283-287, XP006014574
- D3: Jacky Chun Kit Yan et al.: "Signal-dependent film grain noise removal and generation based on higher-order statistics" Higher-Order Statistics, 1997., Proceedings of the IEEE Signal Processing Workshop on Banff, Alta., Canada 21-23 JULY 1997, Los Alamitos, CA, USA, IEEE Comput. Soc., US, 21 July 1997, pages 77-81, XP010239820

2. **Item V: Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

2.1 The present application meets the requirements of Articles 33(2) and 33(3) PCT because the subject matter of claims 1 and 18 is novel and involves an inventive step, the reasons being as follows:

As to claim 1:

D1 discloses:

- A method for simulating film grain (see column 2, lines 6-8 supported by fig. 3) comprising the steps of:
- receiving image information representative of an image from which film grain has been at least attenuated (see column 6, lines 34-40);
- receiving film grain information that includes at least one parameter among a set of possible parameters specifying different attributes of the film grain previously in the image (see column 13, lines 1-8);
- simulating the film grain in accordance with the at least one parameter; and merging the simulated film grain into the image (see column 6, lines 40-67 supported by fig. 3).

D1 however does not disclose:

- selecting a model for simulating grain; and
- simulating the film grain in accordance with the selected model;

In D1 a statistics file is generated for the combination of film scanner and film type, which is selected for film grain generation, but which is predetermined by said combination. Film grain noise is generated using a random number generator, the statistics used are based upon said statistics file. No different models for grain simulation are neither disclosed in D1 nor in any of the other available prior art.

An inventive step is acknowledged.

The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claim 18, which therefore is also considered new and inventive.

2.2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

2.3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1, D2 and D3 is not mentioned in the description, nor are these documents identified therein.